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514413-3852**REMARKS**

Reconsideration and withdrawal of the rejections of this application and consideration and entry of this paper are respectfully requested in view of the herein remarks, which place the application in condition for allowance.

**I. STATUS OF CLAIMS AND FORMAL MATTERS**

With the cancellation of claim 2 and the addition of claims 16-20, claims 1, 3-10 and 12-20 are now pending. No new matter has been added.

Examples of support, though not necessarily the sole support, for the various claim amendments are as follows:

Claim 1 includes the definition of  $R^1$  from previous claim 2, the definition of  $R^2$  and  $R^3$  from previous claim 3 and the definition of X from page 9, line 25 through page 10, line 6 of the specification.

Claims 1 and 3 have been amended to delete reference to alkenyl and alkynyl for  $R^1$ .

Claim 16 includes the features defined on page 7, lines 25-28.

Claim 17 includes the features defined on page 7, line 29 through page 8, line 4.

Claim 18 includes the features defined on page 10, lines 7-12.

Claim 19 includes the features of claims 1, 4, 5, 12 and 16-18.

Claim 20 includes the features of claim 19 and defines  $R^2$  and  $R^3$  based on the moieties disclosed in the Examples (see pages 18-32 of the specification).

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112. The amendments of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

**II. THE 35 U.S.C. §112 REJECTION HAS BEEN OVERCOME**

While it is not conceded that the Examiner has properly stated a case for lack of enablement, in order to expedite prosecution, recitation of the alkenyl and alkynyl groups, which served as the basis of the rejection, has been deleted. Therefore, this rejection has been rendered

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moot and can be withdrawn. Applicants reserve the right to file a continuing or divisional application to reintroduce the delete subject matter and further contest this rejection.

### **III. THE 35 U.S.C. §103(a) REJECTION HAS BEEN OVERCOME**

Claims 1-10 and 12-15 were rejected as allegedly being unpatentable over Giencke et al. (WO 97/08156) or Lorenz et al. (U.S. Patent 6,069,114) in view of Charkrabarti et al., *Tetrahedron*, vol. 31(16): 1879-1882, (1975). Reconsideration and withdrawal of this rejection is requested based on the following reasons.

Note: U.S. Patent 6,239,071 is an English language equivalent of WO 97/08156. All references to figures and pages for Giencke et al. refer to this '071 patent.

The applicants' counterarguments to the Examiner's statements on pages 8-9 of the previous Office Action are folded into the response to the Examiner's statements made on page 11. The applicants' rebuttal begins against the Comparative Data section on the middle of page 9.

#### ***Examiner's Comparative Data Analysis Is Incorrect***

It is well known that PTO policy is to follow *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) in the consideration and determination of obviousness under 35 U.S.C. 103. The "Graham" factors also include the factual inquiry for "evaluating evidence of secondary considerations." It appears from the Examiner's rebuttal that he is requiring such data to be in affidavit form as per 37 CFR 1.132. However, there is no PTO requirement for such a presentation when the evidence of secondary consideration is present in the specification as in the present case (Note that the same Title 18, Section 1001 acknowledgement which usually ends a Rule 132 declaration is the same acknowledgement which is presented with the Oath/Declaration filed with the application) – see also MPEP 716.02(f) – Advantages Disclosed or Inherent – which states in part "The totality of the record must be considered when determining whether a claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made. ***Therefore, evidence and arguments directed to advantages not disclosed in the specification cannot be disregarded.*** *In re Chu*, 66 F.3d 292, 298-99, 36 USPQ2d 1089, 1094-95 (Fed. Cir. 1995)" (emphasis added).

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The Examiner also appears to object to the fact that the specification indicates that the comparative example was from U.S. Patent 5,084,570 and not the prior art cited by the Examiner in his rejection citing the first paragraph of MPEP 716.02(e) and section II of MPEP 716.02(e). However, it is unclear why the Examiner omitted MPEP 716.02, which is Section I – The Claimed Invention May Be Compared with Prior Art That Is Closer Than That Applied by the Examiner which reads as follows:

“Applicants may compare the claimed invention with prior art that is more closely related to the invention than the prior art relied upon by the examiner. *In re Holladay*, 584 F.2d 384, 199 USPQ 516 (CCPA 1978); *Ex parte Humber*, 217 USPQ 265 (Bd. App. 1961) (Claims to a 13-chloro substituted compound were rejected as obvious over nonchlorinated analogs of the claimed compound. Evidence showing unexpected results for the claimed compound as compared with the 9-, 12-, and 14- chloro derivatives of the compound rebutted the *prima facie* case of obviousness because the compounds compared against were closer to the claimed invention than the prior art relied upon.)”

In the present application, Comparative Example f) in the specification uses the same starting material (2-amino-4-methylthio-6-(1-chloroisopropyl)-1,3,5-triazine), the same chlorinating reagent (chlorine gas) to make the same end product (2-amino-4-chloro-6-(1-chloroisopropyl)-1,3,5-triazine) as Example e) which shows an embodiment of the applicants' claimed invention and differs in the chlorinating step only by the type of solvent used (Comparative Example f) uses a solvent which is not essentially anhydrous (trichloromethane) whereas Example e) uses an essentially anhydrous solvent (glacial acetic acid)). The total yield of the end product based on this difference when comparing the inventive Examples vs. the Comparative Example was profound, 80% vs. 10%, which would be viewed by those of skill in the art to be a most unexpected result.

While it is certainly understandable that it is difficult to have instantaneous recall of all aspects of the MPEP, it nonetheless strains credulity to believe that the Examiner inadvertently skipped section I of MPEP 716.02(e) when he recites the passages which immediately precede and follow section I. Just as it is improper to “pick and choose” from within the constructs of the prior art to fit an applicants' claimed invention, it also improper to “pick and choose” from within the MPEP without considering their disclosures as a whole.

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***Giencke and Lorenz References Were Not Considered As a Whole When Determining Whether These References Represented Closer Prior Art Than U.S. Patent 5,084,570***

Comparative example g) was derived from U.S. Patent 5,084,570 which explicitly defines the starting material, end product and process conditions and yields and serves as a much closer example than the generic teachings offered in the Giencke et al. and Lorenz et al. references relied upon by the Examiner.

Referring again to MPEP 2141, it is stated in part that "When applying 35 U.S.C. 103, the following tenets of patent law **must be adhered to**:

- (A) The claimed invention must be considered as a whole;
- (B) The references considered must be considered as a whole..."

(emphasis added)

When making the "as a whole" assessment of what the Giencke et al. and Lorenz et al. references teach, it is clear that they are directed toward formation of much larger compounds than the end products resulting from the claimed invention, i.e. the end products of this claimed invention are used as the **starting material** for the invention of Giencke et al. and Lorenz et al.

Given this fact, it is not surprising that little information is given as to how to make the compounds represented by formula (IV) in Giencke et al. and formula (XII) in Lorenz et al. nor are there any examples showing any method of making specific embodiments of this compound which can serve as a comparison. This is not to say that compounds of formula (IV)/(XII) were unknown at the time of their respective inventions. To the contrary, methods of making these compounds were known in the art as is exemplified by U.S. Patent 5,084,570. However, the claims at issue are **method of making** claims and as such the Giencke et al. and Lorenz et al. merely show a generic recitation of compounds and does not offer any reasonable basis for a proper comparison and certain not any better than the specific conditions which were described by the comparative example taught in U.S. Patent 5,084,570.

MPEP 706.02(e), section III – The Claimed Invention May Be Compared with the Closest Subject Matter That Exists in the Prior Art – reads as follows:

"Although evidence of unexpected results must compare the claimed invention with the closest prior art, applicant is not required to compare the claimed invention with subject matter that does not exist in the prior art. *In re Geiger*, 815 F.2d 686, 689, 2 USPQ2d 1276, 1279 (Fed. Cir. 1987) (Newman, J., concurring) (Evidence rebutted *prima facie* case by comparing claimed invention with the most relevant prior art. Note that the majority held the Office failed to

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establish a *prima facie* case of obviousness.); *In re Chapman*, 357 F.2d 418, 148 USPQ 711 (CCPA 1966) (Requiring applicant to compare claimed invention with polymer suggested by the combination of references relied upon in the rejection of the claimed invention under 35 U.S.C. 103 "**would be requiring comparison of the results of the invention with the results of the invention.**" 357 F.2d at 422, 148 USPQ at 714.)." (emphasis added)

Requiring a comparison against Giencke et al. or Lorenz et al., which is not even the closest prior art, would also improperly require a test against the applicants' own invention given the lack of direction given in Giencke et al. and Lorenz et al.

***"Arguments of Counsel" Merely Reflected What Was Already Disclosed in the Specification***

The previous argument with regard to the showing of unexpected results as well as those made above are not arguments or the attempted introduction of facts not previously disclosed, these are merely a recitation of the facts which are found in the specification, specifically the process steps and result of the comparison between Comparative Example f) and Example e).

The Examiner also argues that the applicants have not offered any valid reasoning why it is necessary to use varying conditions in the comparative data and points to the differences in stir time after introduction of the chlorine gas. However, the answer is self-evident from a reading of the text in the Examples. Example f) uses glacial acetic acid which is known even by those without skill in the art to be a viscous liquid (text states that the mixture is a suspension) whereas Example f) uses trichloromethane (chloroform) or tetrachloromethane (carbon tetrachloride) which is known even by those without skill in the art to be liquids (text states that the mixture is a solution). If anything, stirring of a solution in 15 minutes should've resulted in greater exposure time of the starting material to the chlorine gas than 90 minutes in suspension and should've been expected to yield more final product than the 10% which was observed.

The Examiner did cited section II of MPEP 706.02(e) which included a passage which read "Where comparison is not identical with the reference disclosure...and if not explained should be noted and evaluated...*In re Armstrong*, 280 F.2d 132, 126 USPQ 281 (CCPA 1960)(**deviations from examples were inconsequential**)" (emphasis added). The deviations in timing are inconsequential and have a rational basis in the art and as such there is no basis for the Examiner's position in attempting to assign weight to the mixing time without any supporting

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evidence of his own which is required since the initial burden for establishing a *prima facie* case of obviousness resides with the Examiner.

***Optimization of Conditions Requires Recognition of Results Effective Variable***

As argued above, the applicants have shown unexpected results and that the choice of solvent is a critical parameter. The Examiner argues that the applicants have not shown evidence why optimizing the parameters *IS NOT* an obvious variant from the prior art references disclosed by the Examiner. However, the initial evidentiary burden is on the Examiner to show that the prior art to show that the solvent parameter *IS* an obvious variant. In order for the Examiner to establish this he must show that a particular parameter was first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) – see also MPEP 2145, section B. As of this writing, this evidentiary burden had not been met.

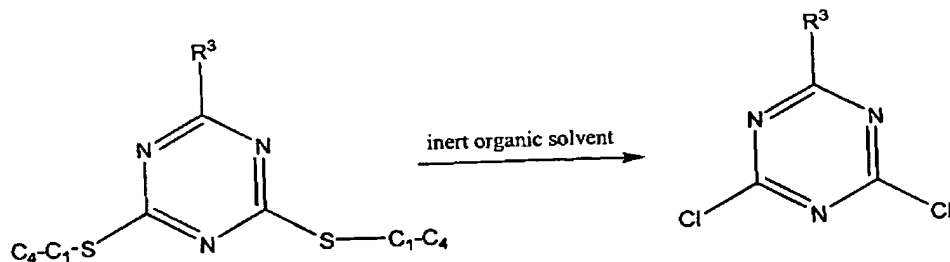
***Teaching of Chakrabarti Is Directed to a Different Invention and Is Also Applied to the Giencke et al. and Lorenz et al. in a Manner Different from Applicants' Claimed Process***

The Examiner recognizes that Chakrabarti alone does not teach the applicants' claimed process as it is not used alone to reject the claims or as the primary reference against the process claims but merely as a supplementary reference in an attempt to remedy the deficiencies of the Giencke et al. and Lorenz et al. references.

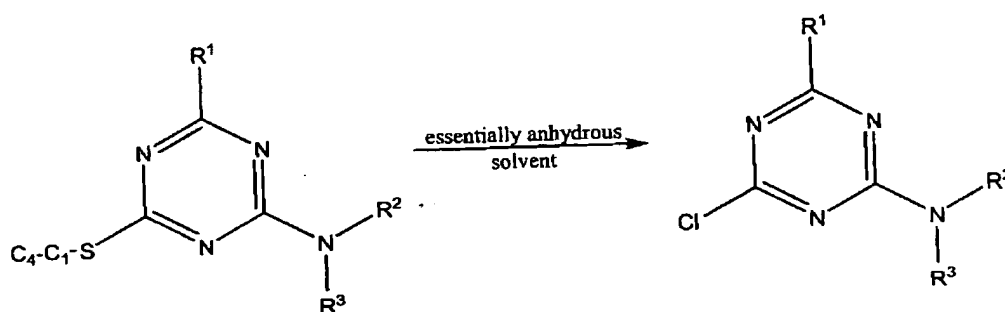
However, unlike the normal situation where the secondary reference is argued by the Examiner to be combinable with the primary reference with the requisite motivation and reasonable expectation for success, both the Giencke et al. and Lorenz et al. references actually dictate how the Chakrabarti reference is to be used by those of skill in the art within the context of their invention.

Applying the teachings of col. 18, lines 45-55 from Lorenz et al. results in the following process:

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Process of Giencke et al. and Lorenz et al. after applying Chakrabarti's teaching



Applicants process (generalized)

MPEP 2143.03 states in part that "To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)". When applying the teaching of Chakrabarti to Giencke et al. and Lorenz et al., one of ordinary skill in the art still arrives at a process that differs in at least two different aspects, i.e. the lack of an amine group at the 4-position and the use of a different solvent, i.e. even if the Examiner's logic that applying Chakrabarti's process conditions results in high chlorination yields, it still does not explain the differences in the 4-position and the use of a different solvent.

There is no motivation or teaching to modify the process from either Chakrabarti, Giencke et al. or Lorenz et al. to account for these differences. It cannot even be said that there is even the basis for an improper obvious to try rationale because the Giencke et al. and Lorenz et al. references specifically dictate how the Chakrabarti reference is to be used in the context of their invention. The Examiner would have to somehow not only assert a basis for the missing elements of the invention but also assert a basis as to why Chakrabarti should be applied

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differently from the manner in which the primary reference itself suggest is the appropriate application and why there would be a reasonable expectation of success for the Examiner's asserted modifications when it is already known from the prior art of Burdeska et al. (U.S. Patent 5,084,570) that a successful chlorination process on an alkylthio-triazine disubstituted with aromatic radicals resulted in less than satisfactory results when attempting to modify the conditions to an amino-alkylthio-triazine like the compounds used in the applicants' process. As of this writing, there has been no supporting evidence has been offered to support any of the Examiner's opinions or to counteract the teachings away and lack of expectation of success which is suggested the prior art references cited.

### **Conclusion**

Accordingly, it is submitted that when one considers all of the teachings in the art, one does not find the motivation to combine the cited references, nor the expectation of success in doing so. Even if such a *prima facie* case had been established, the applicants' submitted evidence of unexpected results which would have rebutted such a *prima facie* holding. Reconsideration and withdrawal of the Section 103 rejections are requested.

### **REQUEST FOR INTERVIEW**

In the interest of adhering to the tenets of compact prosecution and obtaining good customer service, the applicants request that the teachings of MPEP 707.07(j), sections II and III be applied, especially with regard to the offer of suggestion for correction by the Examiner if the rejections are upheld.

In accordance with MPEP 713.01, section III, **should any issue remain as an impediment to allowance, an interview with the Examiner and SPE are respectfully requested;** and, the Examiner is additionally requested to contact the undersigned to arrange a mutually convenient time and manner for such an interview ("An interview should normally be arranged for in advance, as by letter, facsimile, electronic mail, telegram or telephone call, in order to insure that the primary examiner and/or the examiner in charge of the application will be present in the office." *Id.*).



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In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution. The Commission is authorized to charge any fee occasioned by this paper, or credit any overpayment of such fees, to Deposit Account No. 50-0320.

Respectfully submitted,  
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